UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,919	04/30/2001	Sadao Nishibori	DED-3170-3	9911

7590 01/19/2006

David E. Dougherty
DENISON, SCHULTZ, DOUGHERTY & MacDonald
1727 King Street, Suite 105
Alexandria, VA 22314

EXAMINER	
PIERCE, JEREMY R	
ART UNIT	**PAPER NUMBER**
1771	

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/843,919	NISHIBORI ET AL.	
	Examiner	Art Unit	
	Jeremy R. Pierce	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10,11,13-32 and 34-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10,11,13-32 and 34-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on November 18, 2005 has been entered. Claims 1, 2, and 62 have been amended. Claims 1-8, 10, 11, 13-32, and 34-62 are currently pending. The amendments to claims 1 and 2 have addressed the 35 USC 112 2nd paragraph indefiniteness rejections set forth in section 4 of the last Office Action. Therefore, the 112 rejections are withdrawn. However, the prior art rejections are maintained and set forth below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 13-32, 34-48, and 52-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (U.S. Patent No. 5,972,463) in view of Kargol et al. (U.S. Patent No. 5,492,662).

Martin et al. disclose open, nonwoven webs made from thermoplastic filaments (column 1, lines 8-17). The nonwoven material finds use as, among other things, a cushioning web (column 7, line 1). The web may be made from helically shaped or coiled filaments (Figure 4) interengaged into a desired ordered or random patter to a

desired web weight (column 7, line 51 –column 8, line 2). The filaments are made from a mixture of polymers. Examples of the polymers include polyolefins, such as polyethylene and polypropylene, and ethylene vinyl acetate (column 17, lines 31-64). A blend of polyethylene and/or polypropylene with poly (vinyl acetate) is also disclosed. The substrate can be embossed, thus creating an increase in bulk density in the width direction at spaced intervals of length (Figure 24 and column 20, lines 35-62).

Martin et al. fail to disclose the nonwoven to have a uniform thickness when made with varying density. Kargol et al. disclose a cushion material made from polymeric fibers with varying zones of density (Abstract). Kargol et al. disclose that using their method for forming a cushion creates a material superior in comfort and durability (column 5, lines 47-49). It would have been obvious to one having ordinary skill in the art to use the method of providing varying density disclosed by Kargol et al. in the nonwoven of Martin et al. in order to make a more comfortable cushion. Although the mold of Kargol et al. displayed in the figures does not give a nonwoven with a uniform thickness because, Kargol et al. disclose that the dimensions of the mold cavity may be altered and such alterations can easily be determined by one of skill in the art (column 2, lines 6-9). In Figures 3-5, the cushion created by Kargol et al. is not uniformly thick because it is being used to create a car seat (See Figure 5). However, a person of ordinary skill in the art might not want such a particularized end usage to the product, and Kargol et al. teach using a mold cavity of any desired shape for the end product (column 6, lines 5-10). It would have been obvious to one having ordinary skill

in the art to form a nonwoven with a uniform thickness in order to create a cushion pad not having a particularized end usage, as taught to be known by Kargol et al.

With regard to claim 2, both Martin et al. (Figure 24) and Kargol et al. (Figure 4) disclose areas of low density and areas of high density. With regard to claims 3-6, Martin et al. disclose the ethylene-vinyl acetate can be used as the low melting component (b) and that polypropylene can be used as the higher melting component (a) (column 18, lines 31-36). However, Martin et al. do not disclose how much of the fiber is made of component (a) and how much is made of component (b). Martin et al. do teach that component (a) provides the structural role in the fibrous material, whereas component (b) provides an adhesive function to the web (column 23, lines 35-54). Since the material of Martin et al. is used as an abrasive article or cushioning material, it would likely be inherent for the fibers of the nonwoven to comprise 70 to 97% polyolefin for structure and 3 to 30% EVA for bonding. If not inherent, it would have been obvious to a person having ordinary skill in the art to create the nonwoven web of Martin et al. with a higher ratio of structural material and lower level of bonding material in order to provide a rigid web material with a sufficient amount of bonding agent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. With regard to claims 13-16, Martin et al. disclose the filaments to have a diameter of 0.5 to 25 mm (column 4, lines 52-61). With regard to claims 17-26 and 34-38, neither Martin et al. nor Kargol et al. disclose the bulk density of the nonwoven web. Martin et al. do teach the bulk density or void volume can be varied (column 13, lines 55-63) and Kargol et al. teach that desired densities are obtained by

adjusting the amount of fibers placed within any given zone of the mold (column 2, lines 10-18). Thus, altering the density would be result effective variable that that is adjusted by changing the amount of fiber used in the mold. Absent any unexpected results that arrive from using the claimed densities, it would have been obvious to a person having ordinary skill in the art to make the nonwoven web have a density within the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. With regard to claims 27 and 28, the web material of Martin et al. (column 7, line 1) and Kargol et al. (column 5, line 47) may be used as a cushioning web. With regard to claims 52 and 53, Martin et al. disclose the web can be made from hollow filaments (column 5, lines 22-24). Therefore, a web made in this embodiment would have from 50 to 100% hollow filaments. With regard to claims 57-61, Martin et al. discloses using both hollow and solid filaments (column 5, line 23). It would have been obvious to one having ordinary skill in the art to provide hollow filaments for lower weight to the nonwoven web surrounded by solid filaments to provide structural integrity to the corresponding hollow filaments. With regard to claim 62, forming the differing areas of bulk density by changing take-off speed is a processing limitation. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different

process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Although Kargol et al. provide the differing densities by use of a different method, the final product would still meet the claimed product limitations because areas of low and high density are formed.

4. Claims 1-6, 17-32, 34-48, and 57-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karami (U.S. Patent No. 4,027,672) in view of Hansen et al. (U.S. Patent No. 5,456,982).

Karami discloses an absorbent pad that has densified regions and a uniform thickness (column 1, lines 60-68). Karami does not disclose the fibers are made from the same materials as recited in claim 1. Hansen et al. disclose an absorbent core comprising thermobondable synthetic fibers (Abstract). The sheath component of the thermobondable fiber comprises a polyolefin resin and an ethylene vinyl acetate resin to make it hydrophilic (column 5, lines 9-19). The fibers are preferably crimped to give a wavy form (column 6, lines 10-14). It would have been obvious to one having ordinary skill in the art to include the fibers of Hansen et al. into the absorbent core of Karami in order to improve the strength of the core without impairing its absorbent capacity, as taught by Hansen et al. (column 2, lines 20-53).

With regard to claims 3-6, Hansen et al. disclose the hydrophilic polymer may comprise 25-50% of the sheath (column 5, line 16), and that the sheath may comprise 10-90% of the fiber (column 5, lines 29-30). With regard to claims 17-26 and 34-48, Karami does not disclose a bulk density for the resin-molded article. Adjusting the density of the pad of Karami would be a result effective variable that would affect the

pad's ability to absorb and transport liquid. Absent any unexpected results that arrive from using the claimed densities, it would have been obvious to a person having ordinary skill in the art to make the nonwoven web have a density within the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. With regard to claims 57-61, the hollow filaments are only an optional limitation of the independent claims. With regard to claim 62, forming the differing areas of bulk density by changing take-off speed is a processing limitation. As discussed above, the patentability of a product does not depend on its method of production. Although Karami provides the differing densities by use of a different method, the final product would still meet the claimed product limitations because areas of low and high density are formed.

5. Claims 7, 8, 10, 11 and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Kargol et al. and further in view of Insley et al. (U.S. Patent No. 5,451,437).

Martin et al. do not disclose using styrene-butadiene-styrene polymer as a component in the nonwoven web. Insley et al. disclose filamentous styrene-butadiene-styrene is a useful elastic polymer in creating filaments (column 4, lines 30-44). It would have been obvious to one having ordinary skill in the art to use styrene-butadiene-styrene polymer in the nonwoven web of Martin et al. in order to provide elasticity to the web as taught by Insley et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended

use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. With regard to claims 49-51, Martin et al. disclose a void volume up to 95% (column 12, line 53). But like the density of the web, Martin et al. disclose the void volume of the web may be adjusted accordingly (column 13, line 55). It would have been obvious to one having ordinary skill in the art to provide the claimed void volumes in the high and low-density areas by optimizing adjustable properties of the web.

Response to Arguments

6. Applicant's arguments filed November 18, 2005 have been fully considered but they are not persuasive.

7. Applicant argues that Martin et al. show an article that is uneven between the high-density portions and low-density portions. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the method of providing varying density taught by Kargol et al. is used in combination with the material of Martin et al.

8. Applicant argues that the processing limitations recited in claim 62 are not taught by the prior art. However, MPEP 2113 [R-1] states: "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of

production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." The product limitations of the claim are met by the prior art because areas of low density are formed alongside areas of high density, despite the fact that a different process formed them.

9. Applicant argues that Karami does not describe or suggest fusing and bonding the fibers. However, Hansen et al. teach that using bondable fibers in an absorbent core can provide improved strength in the core without impairing its absorbent capacity, as set forth above. The combination of Karami with Hansen et al. meets the claimed limitations.

10. Applicant argues that if the method disclosed in Kargol et al. is applied to the continuous filaments of Martin et al., then the filaments would be coated by the polymeric coating of Kargol et al. and the resulting article is different from the article according to the present invention. However, Applicant's claims do not preclude the presence of a coating. Even if a coating were applied to the filaments of Martin et al., the filaments would still meet the claimed limitations.

11. Applicant argues that to provide polymeric coating on the filaments of the present invention is neither disclosed nor suggested. However, Applicant's claims use open-ended "comprising" language as its transitional phrase. MPEP 2111.03 [R-3] states: The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional,

unrecited elements or method steps. Therefore, Applicant's claims do not preclude additional, unrecited elements such as a coating.

12. Applicant argues that the material according to Karami is wood fluff and is therefore different from the present invention. However, Applicant's claims do not preclude the presence of wood fluff. Hansen et al. is used to provide polymeric fibers into the material of Karami, and the combination meets the claimed limitations.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (571) 272-1479. The examiner can normally be reached on normal business hours, but works flextime hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRP
Jeremy R. Pierce
January 13, 2006

Elizabeth M. Cole
COLE
PRIMARY EXAMINER